

BSC

BIOLOGICAL

SCIENCES

生物学

XJTU | BSC
BIOLOGICAL SCIENCES

CAREERS

Graduates from this programme find career opportunities in the fields of biochemistry, genetics, microbiology, molecular biology, and Bio-Pharma. They are well equipped with the scientific knowledge, experimental techniques, and key skills required by industry, research institutions and universities, and government and public services. Graduates can also choose to go onto the further study in related fields including biotechnology, nanotechnology, chemistry and pharmaceuticals.

MODULES

YEAR ONE

UK degrees are three years long whereas in China they are four, therefore we do accept students with certain qualifications directly into Year Two, which is the start of the main academic programme. Most students, however, enter into Year One, which provides you with a range of interesting modules, language classes, and core skills for your degree. In addition, students who enroll for the BSc Biological Sciences programme will study two subject-specific modules (Introductory Biology, and Key Skills for Biologists) and select additional elective modules.

YEAR THREE

Compulsory modules:

GENOME EXPRESSION AND MAINTENANCE

MICROBIOLOGY AND VIROLOGY

MOLECULAR AND CELL BIOLOGY TECHNIQUES

PROTEINS IN ACTION

FUNDAMENTALS OF VIROLOGY

ADVANCED BIOCHEMICAL METHODS

ADVANCED GENETICS

PRACTICAL BIOINFORMATICS

CELL SIGNALLING

MICROBIAL BIOTECHNOLOGY

STRUCTURE AND DYNAMICS OF BIOMOLECULES

Optional modules:

HIGHER ORGANIC CHEMISTRY

INTRODUCTION TO BIOLOGICAL CHEMISTRY

START DATE
September 2023

SCHOOL
School of Science

DURATION
Three or four years

QUALIFICATION
XJTU
BSc Biological Sciences

2+2 STUDY
Available

University of Liverpool
BSc Biological Sciences
(hons,4+0)

LOCATION
Suzhou

BSc Biochemistry
BSc Microbiology&Infection
BSc Biological Sciences
(hons,2+2)

ATTENDANCE
Full time

YEAR TWO

CELL STRUCTURE AND FUNCTION

BIODIVERSITY OF ANIMALS, PLANTS AND MICROBES

INTRODUCTION IN ECOLOGY

CHEMICAL PRINCIPLES OF LIFE

INTRODUCTION TO BIOCHEMISTRY

BIOCHEMICAL METHODS AND ANALYSIS

THE BIOLOGY OF MICROBES

INTRODUCTION TO EVOLUTION AND GENETICS

MOLECULAR BIOLOGY TECHNIQUES

INTRODUCTION IN ECOLOGY

Optional modules:

INTRODUCTORY ORGANIC CHEMISTRY FOR NON-CHEMISTS

INTRODUCTION TO STATISTICS

YEAR FOUR

Compulsory modules:

BIOLOGY OF DISEASE

FINAL YEAR PROJECT (PHASE I)

GENE EXPRESSION AND GENOME ANALYSIS

MOLECULAR IMMUNOLOGY

BIOCHEMICAL MESSENGERS

FINAL YEAR PROJECT (PHASE II)

PROTEIN STRUCTURE AND FUNCTION

Optional modules:

BIOTECHNOLOGY AND SOCIETY

HIGH THROUGHPUT APPROACHES AND SYSTEMS BIOLOGY

Xi'an Jiaotong-Liverpool University
西交利物浦大学

BSC BIOLOGICAL SCIENCES

The School of Science is home to the Biological Science. It is one of the most exciting scientific disciplines of the 21st century. The insights it provides into life processes, together with recent advances in genomics, diagnostics and therapeutic drug development, are having a major impact on humanity.

Royal Society of
Biology

KNOWLEDGE AND SKILLS

By the time you graduate from the BSc Biological Sciences programme, you will have:

- An understanding of the major issues and challenges in Biological sciences
- The ability to understand and describe biological systems
- The skills to design and conduct experiments and investigations
- An appreciation of the moral, social, and ethical issues associated with research and development in the biosciences

WHY SHOULD I STUDY BIOLOGICAL SCIENCES AT XJTU?

- Graduate from a programme that has international accreditation by the Royal Society of Biology, assuring excellence in teaching, curriculum provision and technical skills development as well as enhanced graduate employability
- Benefit from XJTU's strategic location near many biotechnology companies in BioBay, a national biotechnology hub with more than 400 companies with the opportunity for internships and work experience
- Learn in a highly international, research-active environment from academic staff trained in globally respected universities and institutes from around the world
- Enjoy prestigious scientific symposia, conferences and summer schools at the nearby Cold Spring Harbor Asia, giving you the chance to interact with world-famous researchers
- Earn two degrees: an XJTU degree from the Chinese Ministry of Education and a globally recognised degree from the University of Liverpool, a member of the Russell Group of leading UK universities



生物科学

该专业是目前世界上第一批获得英国皇家生物学会认证的生物学本科专业之一。

知识与技能

毕业生将获得以下几个方面的知识和能力：

- 了解生物医学科学中的主要问题和挑战
- 理解和描述生物系统的能力
- 设计和进行实验的能力以及调查技能
- 对与生物科学研究和发展相关的道德、社会和伦理问题的理解

专业特色

- 因其在教学、课程设置、技能发展、提升学生就业能力方面的优异表现, 该专业获得英国皇家生物学会的国际认证
- 西交利物浦大学毗邻国家级生物技术中心——生物纳米园, 400多家生物科技企业为学生提供丰富的实习及工作机会
- 拥有一支由国际知名学术专家组成的教职团队, 享有高度国际化和浓厚的科研氛围
- 毗邻冷泉港亚洲会务所在地, 冷泉港亚洲会务在苏州工业园区举办了许多具有国际影响力的科研会议、学术会议和夏令营, 为学生提供了与国际知名研究人员互动的机会
- 毕业生可获得中国教育部认可的西交利物浦大学学位和国际认可的利物浦大学学位



就业

本专业的毕业生在生物化学, 遗传学, 微生物学和分子生物学领域具有广阔的就业机会, 具备行业内、研究机构和大学、政府和公共服务部门所需的科学知识、实验技术和关键技能。毕业生亦可选择继续深造生物科技、纳米科技、化学及制药等相关学科。

课程

第一学年

在英国, 本科阶段学制三年, 而中国本科阶段学制为四年。因此, 对于已获得相应学时、证书的学生, 在我校可以直接升入二年级进行专业课学习; 大多数学生则是进入一年级学习, 包括众多有吸引力的课程, 语言课程以及与专业课相关的核心技能的学习。另外, 生物科学专业的学生要学两门 专业课 (生物学简介和生物学家关键技能) 和一些选修课。

第三学年

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| 基因表达与维护 (BIO201) |
| 微生物学与病毒学 (BIO203) |
| 分子和细胞生物学技术(BIO205) |
| 活性蛋白质 (BIO207) |
| 高等有机化学 (BIO209)* |
| 高级生物化学方法 (BIO202) |
| 高级遗传学 (BIO204) |
| 实用生物信息学 (BIO206) |
| 细胞信号传导 (BIO208) |
| 微生物技术 (BIO210) |
| 生物分子结构及其动力学(BIO212) |
| 人体的基本结构与功能(DPH110)* |

* 选修课 (BIO209 与 DPH110二选一)

UNDERGRADUATE

BSC BIOLOGICAL SCIENCES 生物科学

Biology is one of the most exciting scientific disciplines of the 21st century. The insights it provides into life processes, together with recent advances in genomics, diagnostics and therapeutic drug development, are having a major impact on humanity.

The BSc Biological Sciences programme provides you with a comprehensive introduction to the biosciences, equipping you with knowledge and skills in a range of areas, from bioinformatics and biotechnology, to cell signalling, genomics, and structural biology.

This programme is one of the first in the world to be awarded international accreditation by the Royal Society of Biology.

生物学是21世纪最令人兴奋的科学学科之一。它对生命过程的见解, 以及基因组学, 诊断学和治疗药物开发的最新进展, 正在对人类产生重大影响。

本专业课程提供全面的生物科学入门知识, 使学生具备从生物信息学和生物技术到细胞信号, 基因组学和结构生物学等各个领域的知识和技能。本专业是目前世界上第一批获得英国皇家生物学会认证的生物学本科专业之一。

XI'AN JIAOTONG-LIVERPOOL UNIVERSITY 西交利物浦大学

Xi'an Jiaotong-Liverpool University is an international joint venture university founded by Xi'an Jiaotong University in China and the University of Liverpool in the United Kingdom. As an independent Sino-foreign cooperative university, it captures the essence of both prestigious parent universities and is the first and only one of its kind approved by the Ministry of Education in China.

西交利物浦大学是经中国教育部批准, 由西安交通大学和英国利物浦大学合作创立的, 具有独立法人资格和鲜明特色的新型国际大学。

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| 开始时间 2023年09月 | 学院 理学院 |
| 2+2 留学模式 可选 | 学位证书 西交利物浦大学 生物科学 |
| 学制 四年 | 利物浦大学 BSc Biological Sciences (hons,4+0) |
| 学习地点 苏州 | BSc Biochemistry BSc Microbiology&Infection BSc Biological Sciences (hons,2+2) |
| 教学形式 全日制 | |

第二学年

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| 生物多样性 (BIO101) | 分子生物学原理 (BIO104) |
| 细胞结构与功能 (BIO103) | 微生物学 (BIO106) |
| 生命的化学原理 (BIO105) | 有机化学 (BIO108) |
| 生物化学 (BIO107) | 分子生物学技术(BIO113) |
| 进化与遗传学 (BIO109) | 统计学(MTH104) |
| 生物化学方法及分析 (BIO102) | 理科英语学习技能3 (EAP103) |
| 生态学 | |

第四学年

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| 疾病生物学 (BIO301) |
| 毕业设计(BIO303) |
| 基因表达和基因组分析(BIO305) |
| 分子免疫学 (BIO309) |
| 生物化学信使 (BIO302) |
| 生物技术 (BIO304) |
| 蛋白质结构和功能 (BIO312) |